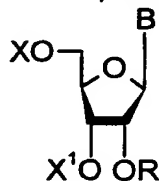


CLAIMS

1. A process for the preparation of a compound of formula (1):



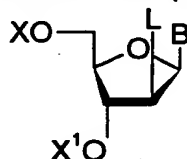
wherein:

X, and X' are each independently H or a protecting group;

B is a base; and

R is an alkyl, alkoxyalkyl, alkenyl, or alkynyl group, each of which may be optionally substituted;

which comprises reacting a compound of formula (2):



wherein

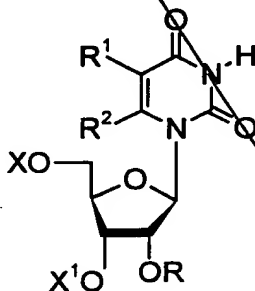
L is a leaving group; and

B, X and X' are as defined above

with a compound of formula $A(OR)_3$ wherein R is as defined above, under substantially anhydrous conditions.

2. A process according to claim 1, wherein the leaving group is selected from the group consisting of $-OSO_2CH_3$, $-OSO_2CF_3$, Cl, Br, I, O-Mesyl, O-Brosyl, O-Tosyl and the base, B, chemically bonded to the 2'-position, via an oxygen or sulphur atom or a moiety of formula $-NR^x$, wherein R^x is H or a C_{1-6} alkyl or an aryl group.

3. A process for the preparation of a compound of formula (3):



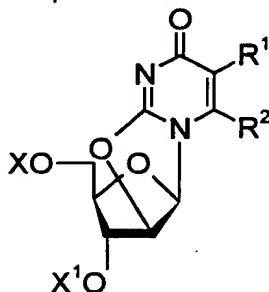
wherein:

X, and X' are each independently H or a protecting group;;

R¹ and R² are each independently H, alkyl, alkenyl, alkynyl, or halogen; and

R is an alkyl, alkoxyalkyl, alkenyl, or alkynyl group, each of which may be optionally substituted;

which comprises the reaction of a compound of formula (4)



wherein

X, X', R¹ and R² are as defined above;

with a compound of formula Al(OR)₃ wherein R is as defined above, under substantially anhydrous conditions.

4. A process according to claim 3, wherein R¹ and R² are both H, or R¹ is C₁₋₄ alkyl, and R² is H.

5. A process according to any preceding claim, wherein R is a C₁₋₄ alkenyl group, a C₁₋₄ alkyl group, a C₁₋₄ alkoxyC₁₋₄ alkyl group or a C₁₋₄ alkynyl group.

6. A process according to claim 5, wherein R is a methoxyethyl group.

7. A process for the preparation of a compound of Formula (1) wherein B represents cytosine, or a substituted derivative thereof, which comprises:

a) preparing a compound of Formula (1) wherein B represents uracil, or a substituted derivative thereof, by a process according to claim 1; and

b) converting the uracil moiety to the equivalent cytosine moiety; or

c) preparing a compound of Formula (3) by a process according to claim 2; and

d) converting the uracil moiety therein to a cytosine moiety.

8. A process for the preparation of a product oligonucleotide which comprises the coupling to a nucleoside or an oligonucleotide of a compound prepared by a process according to any one preceding claim.

add
B